

in response to the first and second coded signals, the proximity switch being in line with said switch controlled by the receiver decoder in response to the first and second coded signals,

(2) the switch and circuit means further including a second conducting line in parallel with the proximity switch and in line with the switch controlled by the receiver decoder in response to the first and second coded signals, said second conducting line including the second of the three switches, said second switch being controlled by the receiver decoder in response to the third and fourth coded signals.

REMARKS

All Grounds for Objection on Formal Grounds Have Been Obviated by the Present Amendment

The abstract was objected to on the basis that it contained more than 150 words. In this amendment the abstract was replaced with a shorter one that contains less than 150 words.

Claims 6 and 26 were objected to because certain words improperly started with a capital letter. These formal defects were cured by amendment of the respective claims.

All Grounds for Rejecting the Claims for Indefiniteness Have Been Obviated by the Present Amendment

Certain defects were pointed out in the Office Action rejecting the claims for indefiniteness. These defects or grounds for rejection all related to lack of antecedent basis of certain terms in claims 1, 7, 13 and 21. All these defects were cured by the present amendment.

However, with respect to the all encompassing statement in the Office Action that "[T]he claims are replete with 112 issues including but not limited to" (page 2 of the Office Action) applicant notes, through the undersigned attorney, that applicant cannot correct alleged but unidentified defects in the claims. In this

regard the burden is on the Examiner to specifically point out the claim language that in the Examiner's view is indefinite. For these reasons the statement that "[T]he claims are replete with 112 issues " is respectfully traversed.

The Claimed Subject Matter Is Not Rendered Obvious by the Cited References

Amended Claims 1, 3 – 7, and 9 – 12 describe an apparatus or dual chamber brake system (as applicable) where the brakes even of a moving vehicle or trailer can be locked as a result of the application of an *anti-terrorist* coded signal by venting pressurized air from the second chamber of the system. The claimed device is also responsive to a second coded signal that allows pressurized air to enter and be held in the second chamber, thereby in effect restoring normal operation to the apparatus or brake system. Moreover, as is now set forth in amended independent claims 1 and 7, the device operates with a solenoid valve that is mounted *within the second chamber*.

The principal references against the present claims of the application are United States Patent Nos. 3,735,834 (*St. Onge*) and 6,367,888 (*Kee et al.*) and a secondary reference is United States Patent No. 4,014,579 (*Dubois*). Whereas *St. Onge* discloses a brake system that operates with pressurized air, and a solenoid operated anti-theft system that vents air from the chambers thereby locking the brakes, the office action itself recognizes that the *St. Onge* device is not operated by coded signals. The *Kee et al.* reference includes a brake system that is responsive to a coded signal that disables the system (locks the brakes) and to another coded signal that enables the system (unlocks the brakes).

The rejection was based on the Examiner's view that one having ordinary skill in the art would have found it obvious at the time the present invention was made to combine the electro mechanical features of the *St. Onge* reference with the two coded signals of *Kee et al.* to arrive to the present invention. Applicant respectfully submits that in the absence of any suggestion in either one of these two references that such combination of features is desirable, the combination of these features would not have been obvious to one of ordinary skill in the art and

therefore the rejection of original Claims 1, 4, 5, 6, 7, 10, 11 and 12, on the basis of these two references was in error. Moreover, Claims 1 and 7 (and their dependent claims) now include the further feature that the solenoid valve is mounted in the second chamber. It is evident from the specification that the second chamber of the type of brake system described is not easily accessible to an intruder, potential thief or terrorist, and it is of course also evident from the specification that the second chamber is pressurizable and is in fact pressurized when the apparatus or brake system is not locked.

Thus, even if one were to combine the features of the cited *St. Onge* and *Kee et al.* references (a non-obvious combination *per se* in applicant's view) one would not arrive to the apparatus or brake system set forth in present claims 1 – 7 and 8 – 11, because such a combination would not include the solenoid in the pressurizable second chamber where it is not easily accessible to an intruder, would-be thief or terrorist. The secondary reference *Dubois* is cited by the Examiner to show the feature of including a “solenoid means” that is mounted in the chamber. A close examination of *Dubois* shows however that the solenoid of this reference, although mounted in a “chamber”, it is not mounted in the pressurized or pressurizable second chamber. Specifically, see column 3, lines 18 – 30 where the *Dubois* reference teaches that solenoid 30 is mounted behind the removable access cover 29. The reference specifically states that “[R]emoval of access cover 29 facilitates replacement or repair of defective parts of the locking mechanism...” (Column 3 lines 27 – 29). It follows from the foregoing that the locking device, including the solenoid of the *Dubois* reference, is readily accessible to an unauthorized person, would-be thief or terrorist, who can readily dismantle the security system by easily removing the access cover 29. This is in sharp contrast with the subject matter of the present claims where the solenoid is mounted in the pressurizable second chamber, where it is not readily accessible. In light of the foregoing, amended Claims 1 – 7 and 9 – 11 are drawn to non-obvious and patentable subject matter.

Claims 13, 14, 15, and 21, 22 and 23 are drawn to an apparatus or brake system (as applicable) that is responsive to four separate coded signals. These claims set forth that one of these is an *anti-terrorist* signal that disables the vehicle by blocking the brakes, and the other (the third signal in the claims) is an *anti-theft* signal that is different from the first signal. The other two signals (second and fourth signals in the claims, respectively) enable the operation of the brakes. It is clear from the description that having these four separate coded signals enables guarding the vehicle or trailer against a would-be terrorist because law enforcement can cause the vehicle to stop at any time by activating the first coded signal, that is ideally only known to law enforcement. Having the four separate signals also enables guarding the vehicle against theft because the owner or authorized user is able to lock the brakes when the vehicle or trailer is parked. The cited references do not describe or even suggest the use of the 4 separate coded signals, and for this reason the subject matter of these claims is patentable.

Claims 16, 17, 18, 24, 25 and 26 not only include the feature of the 4 separate coded signals but also include the feature of including the solenoid valve and the receiver decoder in the pressurizable second chamber. As explained above, mounting the solenoid valve and also the receiver decoder in the second chamber is an advantage because it renders it more difficult for an unauthorized person, such as a would-be thief or terrorist, to access the solenoid and/or the receiver decoder for the purpose of disabling the safety system.

In summary, combining the features of the *St. Onge*, *Kee at al.* and *Dubois* references would not have been obvious to one of ordinary skill in the art. Moreover, even if this combination had been made, one would not have arrived to the subject matter of the instant claims, because the resulting device would not include the solenoid valve and/or the receiver decoder in the pressurizable second chamber (Claims 1, 3 – 7, and 9 – 12) and would not include responsiveness to 4 separate coded signals (Claims 13, 14, 15, and 21, 22 and 23) plus having the

solenoid valve and/or the receiver decoder in the pressurizable second chamber (Claims 16, 17, 18, 24, 25 and 26).

Claims 19, 20, 27 and 28 were held to include allowable subject matter. These claims were retained in the application now being dependent in their respective amended parent and intervening claims. Claims 19 and 27 were also re-written as new independent claims including the subject matter of the respective parent and intervening claims with only such amendment that cures the alleged indefinite terms of the parent claims.

Adding the term "pressurizable" as qualifier of the second chamber does not represent new matter because it is clear from the specification that the second chamber is pressurized when the vehicle or trailer is in operation.

In light of the foregoing, all claims are in *prima facie* allowable condition and their prompt allowance is respectfully solicited.

In accordance with the Patent Office Rules effective March 1, 2001, in the appended attachment titled "Version with Markings to Show Changes Made" applicant, acting through the undersigned attorney, also presents the amended subject matter in the format wherein the deleted material is indicated in square brackets and added material is underlined in accordance with prior practice.

In the event the Examiner is of the opinion that a telephone conference with the undersigned attorney would materially facilitate the final disposition of this case, she is respectfully requested to telephone the undersigned attorney at the below listed telephone number.

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Respectfully submitted

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VERSION WITH MARKINGS TO SHOW CHANGES MADE IN THE SPECIFICATION

On Page 23 delete as follows:

[A remotely activated electro mechanical device is mounted within the interior of the dual chamber brake system of a vehicle or trailer. The electro mechanical device includes a solenoid valve and a receiver decoder which controls the valve in response to a coded signal ideally available only to law enforcement or like authorized agencies or persons, to vent pressure in the emergency chamber of a dual chamber brake system to automatically apply the brakes thereby bringing a moving vehicle or trailer to a stop. The device is also responsive to a second, different coded signal, usually available only to persons authorized users of the trailer or vehicle, to vent pressure in the emergency chamber and to lock the brakes and to block the brake actuator rod from being retracted into its non-braking operative position by preventing pressurized air from being supplied to the dual chamber brake system of a stopped or parked vehicle. The device is also responsive to coded signals which reverse the above-noted actions. The solenoid valve is internally located, preferably at the air inlet port in the emergency chamber of the dual chamber brake system.]

In its place, please insert the following:

A remotely activated electro mechanical device is mounted in the dual chamber brake system of a vehicle or trailer. The device includes a solenoid valve and a receiver decoder which controls the valve in response to a coded signal ideally available only to law enforcement to vent pressure in the emergency chamber of a dual chamber brake system to automatically apply the brakes thereby bringing a moving vehicle to a stop. The device is also responsive to a second, different coded signal, available only to authorized users to vent pressure in the emergency chamber and to lock the brakes by preventing pressurized air from

being supplied to the dual chamber brake system of a stopped or parked vehicle.
The device is also responsive to coded signals which reverse the above-noted
actions.

VERSION WITH MARKINGS TO SHOW CHANGES MADE IN
IN THE CLAIMS

1. (amended) An apparatus for locking and unlocking [the] a brake actuator of a dual chamber brake system that operates brakes with compressed air, wherein the dual chamber includes [a] the brake actuator in a first chamber and a high spring-rate spring in a second chamber, the brake actuator being movable in an [the] axial direction to apply and release the brakes of the brake system; in the absence of compressed air the high spring-rate spring expanding to bias and keep the brake actuator in an axially forward position locking the brakes of the brake system, and wherein when there is compressed air in the second chamber the high spring-rate spring is compressed and allows retraction of the brake actuator from its forward position to unlock the brakes, the apparatus comprising:

electro mechanical means responsive to a first anti-terrorist coded signal for venting pressurized air from the second chamber and for preventing entry of pressurized air into the second chamber whereby expansion of the high spring rate spring causes the brake actuator to move into the axially forward position locking the brakes of the brake system, the electro mechanical means also being responsive to a second coded signal for allowing pressurized air to enter into the second chamber and for disallowing the venting of pressurized air from the second chamber thereby unlocking the brake actuator and unlocking the brakes, the second chamber further including an inlet port, said inlet port allowing attachment of a hose through which pressurized air is normally supplied to the second chamber, and the electro mechanical means further including a solenoid valve mounted in the second chamber to shut-off the supply of pressurized air through the inlet port in response to the first coded signal, and allow the supply of pressurized air through the inlet port in response to the second coded signal.

3. (amended) An apparatus in accordance with Claim 1 [2] wherein a conduit is included in the second chamber for venting pressurized air, said conduit being controlled by the solenoid valve, and wherein the solenoid valve allows the venting of pressurized air through the conduit in response to the first coded signal, and disallows the venting in response to the second coded signal.

6. (amended) An apparatus in accordance with Claim 5 wherein the current is supplied from a power [Source] source, a switch is interposed between the power source and the solenoid valve, and wherein the receiver decoder controls the switch in response to the first and second signals, respectively.

7. (amended) A dual chamber brake system that operates brakes with compressed air to be used in trailers and vehicles, the brake system including a brake actuator in a first chamber and a high spring-rate spring in a second chamber, the brake actuator being movable in an [the] axial direction to apply and release the brakes of the brake system; in the absence of compressed air the high spring-rate spring expanding to bias and keep the brake actuator in an axially forward position locking the brakes of the brake system, the high spring-rate spring being compressed and allowing retraction of the brake actuator from its forward position so as to unlock the brakes when there is compressed air in the second chamber, the brake system further comprising:

electro mechanical means responsive to a first anti-terrorist coded signal for venting pressurized air from the second chamber and for preventing entry of pressurized air into the second chamber whereby expansion of the high spring rate spring causes the brake actuator to move into the axially forward position locking the brakes of the brake system, the electro mechanical means also being responsive to a second coded signal for allowing pressurized air to enter into the second chamber and for disallowing the venting of pressurized air from the second chamber thereby unlocking the brake actuator and unlocking the brakes, the second chamber further including an inlet port, said inlet port allowing attachment

of a hose through which pressurized air is normally supplied to the second chamber, and the electro mechanical means further including a solenoid valve mounted in the second chamber to shut-off the supply of pressurized air through the inlet port in response to the first coded signal, and allow the supply of pressurized air through the inlet port in response to the second coded signal.

9. (amended) A dual chamber brake system in accordance with Claim 7 [8] wherein a conduit is included in the second chamber for venting pressurized air, said conduit being controlled by the solenoid valve, and wherein the solenoid valve allows the venting of pressurized air through the conduit in response to the first coded signal, and disallows the venting in response to the second coded signal.

13. (amended) An apparatus for locking and unlocking a [the] brake actuator of a dual chamber brake system that operates brakes with compressed air, wherein the dual chamber includes the [a] brake actuator in a first chamber and a high spring-rate spring in a second chamber, the brake actuator being movable in an [the] axial direction to apply and release the brakes of the brake system; in the absence of compressed air the high spring-rate spring expanding to bias and keep the brake actuator in an axially forward position locking the brakes of the brake system, and wherein when there is compressed air in the second chamber the high spring-rate spring is compressed and allows retraction of the brake actuator from its forward position to unlock the brakes, the apparatus comprising:

electro mechanical means responsive to a first anti-terrorist coded signal or to a third anti-theft coded signal different from the first signal, for venting pressurized air from the second chamber and for preventing entry of pressurized air into the second chamber whereby expansion of the high spring rate spring causes the brake actuator to move into the axially forward position locking the brakes of the brake system, the electro mechanical means also being responsive to

a second coded signal or to a fourth coded signal for allowing pressurized air to enter into the second chamber and for disallowing the venting of pressurized air from the second chamber thereby unlocking the brake actuator and unlocking the brakes.

14. (amended) An apparatus in accordance with Claim 13 wherein an inlet port is included in the second chamber, said inlet port allowing attachment of a hose through which pressurized air is normally supplied to the second chamber, and wherein the electro mechanical means include a solenoid valve mounted in the pressurizable second chamber to shut-off the supply of pressurized air through the inlet port in response to the first or to the third coded signal, and allow the supply of pressurized air through the inlet port in response to the second coded or to the fourth coded signal.

16. (amended) An apparatus in accordance with Claim 13 wherein the electro mechanical means include a solenoid valve and a receiver decoder, said solenoid valve and receiver-decoder being mounted in the pressurizable second chamber and the receiver decoder being adapted for receiving the first, second, third and fourth coded signals and for controlling the solenoid valve in response to said signals.

21. A dual chamber brake system for locking and unlocking a [the] brake actuator of a dual chamber brake system that operates brakes with compressed air to be used in trailers and vehicles, the brake system including the [a] brake actuator in a first chamber and a high spring-rate spring in a second chamber, the brake actuator being movable in an [the] axial direction to apply and release the brakes of the brake system; in the absence of compressed air the high spring-rate spring expanding to bias and keep the brake actuator in an axially forward position locking the brakes of the brake system, and wherein when there is compressed air in the second chamber the high spring-rate spring is compressed and allows

retraction of the brake actuator from its forward position to unlock the brakes, the dual chamber brake system further comprising:

electro mechanical means responsive to a first anti-terrorist coded signal or to a third anti-theft coded signal different from the first signal, for venting pressurized air from the second chamber and for preventing entry of pressurized air into the second chamber whereby expansion of the high spring rate spring causes the brake actuator to move into the axially forward position locking the brakes of the brake system, the electro mechanical means also being responsive to a second coded signal or to a fourth coded signal for allowing pressurized air to enter into the second chamber and for disallowing the venting of pressurized air from the second chamber thereby unlocking the brake actuator and unlocking the brakes.

22. (amended) A dual chamber brake system in accordance with Claim 21 wherein an inlet port is included in the second chamber, said inlet port allowing attachment of a hose through which pressurized air is normally supplied to the second chamber, and wherein the electro mechanical means include a solenoid valve mounted in the pressurizable second chamber to shut-off the supply of pressurized air through the inlet port in response to the first or to the third coded signal, and allow the supply of pressurized air through the inlet port in response to the second coded or to the fourth coded signal.

24. (amended) A dual chamber brake system in accordance with Claim 21 wherein the electro mechanical means include a solenoid valve and a receiver decoder, said solenoid valve and receiver-decoder being mounted in the pressurizable second chamber and the receiver decoder being adapted for receiving the first, second, third and fourth coded signals and for controlling the solenoid valve in response to said signals.

26. (amended) A dual chamber brake system in accordance with Claim 25 wherein the current [Current] is supplied from a power source, and wherein the

apparatus further comprises switch and circuit means interposed between the power source and the solenoid valve and wherein the receiver decoder controls the switch and circuit means in response to the first, second, third and fourth signals, respectively, the switch and circuit means being adapted for:

- (1) interrupting the flow of current in response to the first signal received by the receiver decoder;
- (2) interrupting the flow of current in response to the third signal received by the receiver decoder;
- (3) allowing the flow of current in response to the second signal, received by the receiver decoder, and
- (4) allowing the flow of current in response to the fourth signal received by the receiver decoder.